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# 91T1-Ni 2 Flux Cored Welding Wire

U.S. ALLOY CO.  
dba Washington Alloy  
7010-G Reames Rd.  
Charlotte, NC 28216  
[www.weldingwire.com](http://www.weldingwire.com)



## ALLOY DESCRIPTION AND APPLICATION:

91T1-Ni2 is a flux cored wire designed for single or multi pass using CO<sub>2</sub> or Argon /CO<sub>2</sub> shielding gas welding having a smooth spray-type transfer commonly used on low alloy steels requiring low impact properties. This all position wire normally used in applications which will produce a chemical composition of 2-3 % nickel yielding strengths ranging from 90-110 ksi. Steels commonly welded with this grade would include mining, earthmoving, shipbuilding, off shore platform rigging and similar grades such as ASTM A203.

## TYPICAL FCAW WELDING PROCEDURES; DCEP with 100% CO<sub>2</sub> (35-45cfh)

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Electrical Stickout
0.045"	150- <b>410</b> -575	100- <b>245</b> -300	24- <b>28</b> -30	1/2-3/4"
0.052"	95- <b>395</b> -515	100- <b>310</b> -350	22- <b>28</b> -31	1/2-1"
1/16"	100- <b>345</b> -430	150- <b>355</b> -410	23- <b>29</b> -32	1/2-1"

Procedures may vary with change in position, base metals, filler metals, equipment and other changes. **(OPTIMUM IN BOLD Based on FLAT)** for mixed gas lower the voltage by 2-10 %

## TYPICAL WELD METAL (%) AND WELD METAL PROPERTIES;

	AWS Spec.	U.S. ALLOY 91T1-Ni2		AWS Spec	Typical
Carbon	0.12 max.	0.06			
Manganese	1.50 max.	1.19	Tensile Strength (psi)	90-110,000	96-100,000
Nickel	1.75-2.75	2.45	Yield Strength (psi)	78,000 min.	83-89,000
Silicon	0.80 max.	0.50	Elongation in 2"	17% min.	23.9%
Sulfur	0.03 max.	0.010	Charpy V-notch (-40°F)	20 ft-lbs min	33 ft-lbs
Phosphorus	0.03 max.	0.011			

**AVAILABLE SIZES:** TCF 91T1-Ni2= Spools of, 1/16

Other sizes may be available – please inquire

**SPECIFICATIONS;** ANSI/AWS A5.29 E91T1-Ni2C, E91T1-Ni2M  
ASME SFA 5.29 E91T1-Ni2C, E91T1-Ni2M



**EAST COAST**  
7010-G Reames Rd  
Charlotte, NC 28216  
Tel (888) 522-8296  
Fax (704)598-6673

**GULF COAST**  
4755 Alpine Drive #100A  
Stafford, TX 77477  
Tel (877) 711-9274  
Fax (281)313-6332

**WEST COAST**  
8535 Utica Ave  
Rancho Cucamonga, CA 91730  
Tel(800)830-9033  
Fax (909)291-4586

2012 DC

Warehouse Distribution Center – Dayton, Ohio

Head Office – Puyallup, Washington

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